

In the Claims

The following listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claims 1 to 15 (canceled).

Claim 16 (currently amended): A lightweight combustion engine valve comprising:

a metallic valve stem including a valve stem end face;

a hollow valve cone having a region of greater diameter; and

a metallic valve disk, the valve cone and the valve disk together forming a hollow space, the valve disk having a flat side facing the hollow space supporting a gripping receiver, the gripping receiver for gripping an end portion of the valve stem and the valve stem end face resting against the flat side, the valve disk having a recess defined therein that has an edge region including an edge step for supporting the valve cone;

wherein the gripping receiver is formed by reinforcing ribs on the valve disk, each of the reinforcing ribs including an end face facing a center of the valve disk center and an upper face supporting an inner wall of the valve cone, each end face forming a separate wall portion, the wall portions together gripping an outer circumference of the valve stem, the region of greater diameter of the valve cone engaging in the recess of the valve disk, the valve cone being welded together with the valve stem and being welded together with the valve disk in the recess.

Claim 17 (canceled).

Claim 18 (currently amended): The lightweight valve as claimed in claim [[17]] 16 wherein, from a top view of a flat side of the valve disk facing the hollow space, the reinforcing ribs extend radially with respect to a longitudinal central axis of the valve disk.

Claim 19 (currently amended): The lightweight valve as claimed in claim [[17]] 16 wherein the plurality of reinforcing ribs are three reinforcing ribs arranged at a spacing of 120° from one

another.

Claim 20 (canceled).

Claim 21 (currently amended): The lightweight valve as claimed in claim ~~[[17]]~~ 16 wherein the reinforcing ribs are rectilinear strips.

Claim 22 (currently amended): The lightweight valve as claimed in claim ~~[[17]]~~ 16 wherein a height of the reinforcing ribs increases in a direction toward a center of the valve disk.

Claim 23 (previously presented): The lightweight valve as claimed in claim 22 wherein the height of the reinforcing ribs rises linearly from a radially external end in the direction of the center of the valve disk.

Claim 24 (previously presented): The lightweight valve as claimed in claim 22 wherein a linearly rising first portion of the reinforcing ribs is adjoined by a second reinforcing rib portion of constant height.

Claim 25 (previously presented): The lightweight valve as claimed in claim 22 wherein a linearly rising first portion of the reinforcing ribs is adjoined by a second reinforcing rib portion extending so as to complement an inner wall of the hollow valve cone.

Claim 26 (currently amended): The lightweight valve as claimed in claim ~~[[17]]~~ 16 wherein the reinforcing ribs are, in a region of the gripping receiver provided with a cutout reducing a size of the reinforcing rib end faces.

Claim 27 (currently amended): The lightweight valve as claimed in claim ~~[[17]]~~ 16 wherein an upper narrow side of the reinforcing ribs bears against an inner wall of the hollow valve cone at least in sections.

Claim 28 (currently amended): The lightweight valve as claimed in claim [[17]] 16 wherein the reinforcing ribs and the valve cone are interconnected by a material connection.

Claims 29 and 30 (canceled).

Claim 31 (currently amended): A method for manufacturing a lightweight combustion engine valve comprising:

producing a first one-piece component forming a metallic valve disk having a recess defined therein that has an edge region including an edge step, the valve disk including and a gripping receiver and a flat side, the flat side supporting the gripping receiver, the gripping receiver being formed by a plurality of reinforcing ribs by casting, forming and/or powder metallurgy method, each of the reinforcing ribs including an end face facing a center of the valve disk center and forming a separate wall portion;

producing a second one-piece component forming a metallic valve stem having a valve stem end face and an outer circumference, the gripping receiver being for the valve stem;

producing a third component forming a hollow valve cone having an end of greater diameter;

connecting the first and second components by ~~a material, non-positive and/or positive connection between~~ forcing valve stem into the gripping receiver so each of the wall portions and contacts the outer circumference of the valve stem and the valve stem end face contacts the flat side of the valve disk, and

pushing the third component onto the second component after the valve stem is forced into the gripping receiver and connecting the third component to the first and second components by engaging the end of greater diameter of the hollow valve cone in the recess of the valve disk and welding the valve disk in the recess and welding the valve stem to the hollow valve cone.

Claim 32 (previously presented): The method as recited in claim 31 wherein the third component is produced by a forming operation.

Claim 33 (currently amended): A lightweight combustion engine valve comprising:

a metallic valve stem;

a hollow valve cone having a region of greater diameter; and

a metallic valve disk, the valve cone and the valve disk together forming a hollow space, the valve disk having a gripping receiver for gripping the valve stem formed by a plurality of reinforcing ribs on the valve disk extending radially inward from a circumference of the disk to grip an outer circumference of the valve stem and a recess defined therein that has an edge region including an edge step for supporting the valve cone, each of the reinforcing ribs including an end face facing a center of the valve disk center and forming a wall portion gripping an outer circumference of the valve stem, the region of greater diameter of the valve cone engaging in the recess of the valve disk, the valve cone being welded together with the valve stem and being welded together with the valve disk in the recess.

Claim 34 (previously presented): The lightweight valve recited in claim 16 wherein an end of the end portion of the valve stem contacts a top side of the valve disk.

Claim 35 (currently amended): The lightweight valve recited in claim 16 wherein the reinforcing ribs have a narrow side which extends so as to complement an inner wall of the valve cone so that ~~and~~ the valve disk and the valve cone are connected with the inner wall bearing against the narrow side of the reinforcing ribs or parts thereof.

Claim 36 (new): The lightweight valve recited in claim 16 wherein a height of each of the reinforcing ribs increases in a direction toward a center of the valve disk and a width of each of the reinforcing ribs decreases in the direction toward the center of the valve disk.

Claim 37 (new): The method as recited in claim 31 wherein the forcing the valve stem into the gripping receiver creates a non-positive connection between the wall portions and the outer circumference of the valve stem.

Claim 38 (new): The method as recited in claim 31 wherein each of the reinforcing ribs includes an upper face facing away from the flat side of the valve disk, the valve cone includes an inner

wall and the pushing step includes forcing the inner wall of the valve cone into contact with the upper faces of the reinforcing ribs so the reinforcing ribs support the valve cone.

Claim 39 (new): The method as recited in claim 31 wherein before the pushing step and after the forcing the valve stem into the gripping receiver, the valve disk and valve stem are interconnected inseparably by a material connection.